

Setting up Entire System Server Components

This subsection covers the following topics:

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- Step 2: Customize Entire Broker
- Step 3: Establish Environment Variables
- Step 4: Customize the NPR Server
- Step 5: Start Work with Entire System Server

Overview of Steps for Setting up Entire System Server on UNIX

Setting up Entire System Server on UNIX consists of the following steps:

Activity	Remarks
Read the README file.	Mandatory
Customize Entire Broker.	Mandatory if the application using the Broker (for example: SYSEOR) is on another machine than the NPR server.
Establish the correct environment variables.	Mandatory
Customize the NPR server.	Mandatory
Start work with Entire System Server.	Optional

Step 1: Read the README File

Access the `$SAG/npr/v211` directory and read the `README.1ST` file for any version-specific installation considerations concerning the particular platform.

Step 2: Customize Entire Broker

The following definitions must be included in the Entire Broker attribute file:

```

DEFAULTS=SERVICE
TRANSLATION=SAGTCHA
SERVER=<nodename>
CLASS=NPR
SERVICE=<npr identifier>

```

where:

Definition	Explanation
<nodename>	is the identification of the node where the server is active.
<npr identifier>	is the identification of the service name provided for the NPR server.

Repeat these definitions for every NPR server specified in the **npr.ini** file. For instance, if an NPR server is available in the HP001 node with the service name **nprdemo**, the following definitions must be created:

```
DEFAULTS=SERVICE
TRANSLATION=SAGTCHA
SERVER=HP001
CLASS=NPR
SERVICE=nprdemo
```

For installation of the Entire Broker, see the latest documentation (Version 2.1.1 or above for mainframe platforms and UNIX).

Note for mainframe platforms:

If you are running the OS/390 operating system, you might as well use the Broker that comes integrated in the EntireX Version 5.2.1 or above.

Step 3: Establish Environment Variables

- Some environment variables are set by the **sagenv.nprv211** script if it is invoked during session startup:
 - NPRDIR points to the Entire System Server directory;
 - NPRVERS points to the Entire System Server version;
 - EOR_WORK points to the Entire Operations work directory. If this variable is already set, it will not be modified by this script.
- The following environment variables are modified by the **sagenv.nprv211** script:
 - All UNIX platforms:

```
PATH=$PATH:$NPRDIR/$NPRVERS/bin
```

- HP-UX, AIX:

```
SHLIB_PATH=$SHLIB_PATH:$NPRDIR/$NPRVERS/lib
```

- SINIX:

```
LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$NPRDIR/$NPRVERS/lib
```

Step 4: Customize the NPR Server

- Settings within a Section
- [**<npr identifier>**] section settings

The information contained in the **npr.ini** file is used to define the behavior of the server processes.

The **npr.ini** file is structured in one or more sections: the [DEFAULTS] section and one or several [**<npr identifier>**] sections.

Settings within a Section

The [DEFAULTS] section contains default values that apply to all servers, except when a specific section for the server is created. In this case, the values defined in the [**<npr identifier>**] section override the values defined in the [DEFAULTS] section.

It is necessary to create a section with the title [<npr identifier>]. It is recommended to define all necessary values with this section. Please refer to the example.

Local_Node=<node name>

Default	Description
None	Default local node name.

Integration_mechanism=ETB,<broker id>

Default	Description
None	<p>Default integration mechanism. This item identifies the integration mechanism for establishing the communication between the client and the NPR server. Currently, only Entire Broker is supported as integration mechanism.</p> <p>Direct TCP/IP communication to the Entire Broker</p> <p>This requires the availability of an EntireX Broker stub on the machine where the NPR server is running. In this case, the following syntax is possible too:</p> <p>Integration_mechanism=ETB,<broker id>:<port number>:TCP</p> <p>Please refer to the EntireX Broker documentation for details about connections using TCP/IP.</p>

ETB_Wait=<seconds>

Default	Description
30	Default Entire Broker timeout.

ETB_Replica={yes|no}

Default	Description
No	Default replica server option. Currently not supported.

Log_File_Prefix=<string>

Default	Description
Default	Default global log file prefix. This item identifies the prefix of the global log file that will be generated in the \$NPRDIR/\$NPRVERS/work directory.

Trace_Level=<number>

Default	Description
10	Default trace level for server's log file. Currently not supported.

Trace_File_Prefix=<string>

Default	Description
Trace	Default global trace file prefix. This item identifies the prefix of the global trace file that will be generated in the \$NPRDIR/\$NPRVERS/work directory.

Command_Log_Level=<number>

Default	Description	Possible Values
0	Sets different levels of NPR command logging.	0 no command logging 1 log after NPR call 2 log before and after NPR call 3 log before and after NPR call plus Entire Broker error code logging

IPC_Prefix=<4 hexadecimal digits>

Default	Description
aaaa	Default prefix for IPC resources.

Administrator = <user name>

Default	Description
root	Default user authorized as administrator for Entire System Server. root is always authorized independently of the value specified here.

[<npr identifier>] section settings

- Example: npr.ini File

The [<npr identifier>] sections are optional, and can be created or modified later. They are used to define items specific to a certain server when these are different from default. Any item defined in the [DEFAULTS] section can also be defined for each [<npr identifier>] section.

Any item defined in the [DEFAULTS] section can also be defined for each [<npr identifier>] section. If an item is not defined in this section, it is taken from the [DEFAULTS] section.

Example: npr.ini File

```
; Entire System Server
; Version 2.1.1 PL 0
; (C) 2001, Software AG
; Entire System Server INI file
; This file has been customized during the installation process,
; but it is possible to modify this information at any time using
; any text editor available on the system

[DEFAULTS]
Local_node=<node name>
Integration_Mechanism=ETB,<ETB id>
ETB_Wait=30
ETB_Replica=no
Log_File_Prefix=default
Trace_Level=0
Trace_File_Prefix=trdef
Command_Log_Level=0
IPC_Prefix=aaaa
Administrator=sag

[nprdemo]
Local_node=DEMONODE
Integration_Mechanism=ETB,ETB098
ETB_Wait=30
ETB_Replica=no
Log_File_Prefix=nprdemo
Trace_Level=10
Trace_File_Prefix=trdemo
Command_Log_Level=0
IPC_Prefix=dddd
```

Step 5: Start Work with Entire System Server

- Starting a Server
- Stopping a Server

You can omit this step if the application using Entire System Server is running on the same machine as the NPR server. In this case, you must setup the application using Entire System Server (for example: Entire Operations) in a way that it will access the NPR server in the so called 'local mode'.

For details, see the **System Administrator's Documentation** of the application that uses Entire System Server.

The **npretb** module is the Operating System Server for Entire Operations. It can receive remote requests from clients using the Entire Broker mechanism. The server executes the system functions by calling the adequate function in the dynamic library **nprlib.sl**.

The characteristics of the client/server communication established through the Entire Broker mechanism are as follows:

- Connection-less oriented mode;
- Broker class always equal to NPR;
- User identifier always equal to NPR_ETBS;
- Service name always equal to <npr identifier>;
- Default internal timeout value equal to **30** seconds;
- Default internal replica value equal to YES. This characteristic relative to replica servers is not implemented in the current version.

The **npr.ini** file defines the attributes related to an NPR server.

Starting a Server

To start a server

- Use the NPRMGR utility:

```
$ nprmgr  
NPRMGR> start service <service name>
```

You can check that the server has been successfully initiated with the NPRMGR utility:

```
$ nprmgr  
NPRMGR> display service <service name>
```

Stopping a Server

To stop a running server

- Use the NPRMGR utility in this way:

```
$ nprmgr  
NPRMGR> stop service <service name>
```

See the subsection Product Operation: The NPRMGR Utility for more information about these commands.

- Invoke the **Startnpr** script directly, followed by the service name:

```
startnpr service-name
```